Claims

What is claimed is:

1. A notification system, comprising:

a monitor that monitors likely available states of an entity; and

a bounding system that classifies a notification to the entity according to a predefined protocol and the likely available states, the bounding system facilitating deferral of the notification based at least in part on the notification classification.

2. The system of claim 1, wherein the bounding system is a subscription service provided at a notification source that enables users to tag notifications according to a predefined priority.

3. The system of claim 2, wherein the predefined priority is assigned based upon the happening of a condition.

4. The system of claim 2, further comprising a subscription user interface to enable users to configure attributes of a notification.

5. The system of claim 4, wherein the attributes are defined in a notification schema.

6. The system of claim 5, the notification schema further comprising at least one of a notification class, a source, a source assigned priority, a sender, a target, one or more content components, a relevant context, and advanced attributes.

7. The system of claim 5, further comprising a preferences profile for assigning priority based upon settings in the notification schema.

8. The system of claim 7, further comprising a notification preferences editor to enable users to configure the preferences profile.

9. The system of claim 8, wherein the notification preference editor enables users to configure at least one of a context, a source type, a contact class, and a notification agent policy for directing received notifications.

10. The system of claim 9, wherein the context includes at least one of a calendar, time of day, and a device activity.

11. The system of claim 9, wherein the source type includes at least one of a human contact and an automated alert.

12. The system of claim 9, wherein the contact class includes at least one of key associates, family, and an InAddress Book.

13. The system of claim 1, wherein the monitor derives context from at least one of a calendar, a time of day, a device activity, and a user location.

14. The system of claim 13, wherein the monitor determines the likely available states from the derived context.

15. The system of claim 1, wherein the likely available states are determined from at least one of an indication by the user, an office setting, an environment setting, an activity setting, and a driving setting.

16. The system of claim 1, further comprising a notification agent that directs notifications from one or more sources to one or more notification sinks based at least in part on the predefined protocol and the likely available states.

17. The system of claim 1, wherein the bounding system is a priorities system that automatically assigns priorities to notifications.

18. The system of claim 17, wherein the priorities are assigned *via* a classifier.

19. The system of claim 1, further comprising a max deferral setting that is associated with a notification priority to enable at least one of a delivery of the notification at a time-out of the max deferral, and deferral of the notification to the likely available free state.

20. The system of claim 19, further comprising a setting to enable designated notifications to at least one of be passed-through, and restricted during designated periods.

21. A method to minimize notification disruption costs, comprising,
tagging one or more notifications with a value;
determining available user states;
defining one or more time bounds based upon the value; and
deferring the one or more notifications until at least one of the available user states, and the one or more time bounds.

22. The method of claim 21, wherein the value is at least one of automatically assigned and manually assigned.

23. The method of claim 22, wherein the value is at least one of a priority, an urgency, and an importance.

24. The method of claim 23, wherein the value is at least one of a scalar number, a dollar ($$) value, and a qualitative tag.

25. The method of claim 23, wherein the value reflects the change in value over time with delays.

26. The method of claim 25, wherein the value is determined as expressions of deadlines, stepwise, half-life, and sigmoid functions.

27. The method of claim 21, wherein determining available user states further comprises at least one of:

detecting typing and a pause for x seconds;

detecting a file operation and a pause for x seconds;

detecting an e-mail transmission and a pause for x seconds;

detecting an application close operation;

detecting a switch from one application to another; and

detecting a reduction in a user's conversation.

28. The method of claim 21, wherein determining available user states is directed by a user.

29. The method of claim 28, wherein determining available user states further comprises at least one of:

providing a user specified pause after typing;

specifying availability after an e-mail;

specifying availability after a file operation; and

specifying availability after a conversation.

30. A computer-readable medium having computer-executable instructions to perform the acts of claim 21.

31. A system to minimize disruption costs, comprising,

means for tagging one or more messages with a value;

means for determining available free states;

means for specifying one or more time bounds based upon the value; and

means for deferring the one or more messages until at least one of the available free states, and the one or more time bounds.

32. The system of claim 31, wherein the means for tagging includes at least one of a subscription service and a priorities system.

33. A method to display notifications, comprising,

chunking of notifications; and

displaying the chunks based upon a likely free state and as ordered by at least one of priority, age, and priority by group.

34. A notification system, comprising:

a context monitor that monitors likely available states of an entity; and

a notification agent that classifies a notification to the entity according to a max deferral and the likely available states, the notification agent facilitating deferral of the notification based at least in part on the notification classification.

35. The system of claim 34, wherein the max deferral is expressed as:

$$max\ deferral(priority) = e^{-k(priority)}.$$

36. A method to journal notifications, comprising:

maintaining a global journal for one or more notifications;

providing a more detailed notification window within the journal; and

providing notifications to at least one of the global journal and the notification window based upon one or more bounded notification deferral policies.

37. The method of claim 36, further comprising,

providing at least one of highlighted links, advertisements, and branding information within the notification window.

38. The method of claim 36, further comprising,

removing notifications from a queue based upon at least one of an expired time and date.

39. A method to associate priority information with messages, comprising:

appending a priority value to one or more notifications;

tagging the one or more notifications with application-specific contexts from a set of contexts; and

rendering the one or more notifications within an active context from the set of contexts.

40. A method to determine available users states in a notification system, comprising:

determining a frequency users are available at a desktop;

determining a frequency when alerts are received by the user; and

inferring an expected time until a next likely free state.

41. A method to provide mobile notifications, comprising:

inferring one or more available free states from a mobile device; and

sending notifications to a user based upon at least one of the one or more available free states and a bounded deferral policy.

42. The method of claim 41, further comprising,

detecting an away state; and

relaying the one or more notifications to a mobile notification journal.

43. The method of claim 42, further comprising,

posting notifications to a desktop computer during the away state.

44. The method of claim 42, further comprising,

providing a display upon return policy to control timing of the one or more notifications.

45. A tool for configuring deferral policies, comprising:

a user interface to assess one or more points of mapping a continuous priority to a function that yields a deferral bound *via* extrapolation from one or more other points; and

one or more inputs associated with the user interface to adjust the deferral policies.

46. The tool of claim 45, further comprising at least one of a deadline adjustment field, a context field, and a fallback field.

47. The tool of claim 46, the context field including context inputs to change deferral times for different urgencies of one or more items.

48. The tool of claim 47, the context inputs including at least one of busy working, meeting, critical meeting, and after hours.

49. The tool of claim 46, the fallback field including at least one of send immediately, try best to wait for a good time, but never go over a deadline, and allow a deadline to pass, but wait for a good time.

50. A method providing bounded deferral of communications, comprising:

determining changes in a user's activities;

determining an availability state based upon the user's activities; and

providing prioritized information to the user based upon the availability state.

51. The method of claim 50, the activities includes at least one of bicycling, driving, and being at a presentation.

52. The method of claim 50, the activities determined *via* at least one of accelerometers, monitors to discover when a user has stopped, waiting for a pause in driving load, detecting a stop at a stop sign, detecting a longer pause associated with completing a park, waiting at a red light, and waiting for noise coupled with calendar information about the end of a presentation.

53. The method of claim 50, wherein determining the availability state is based on at least one of sensed and predicted completion of a task, a break or pause in desktop activities, a break in office collaboration activities.

54. The method of claim 50, wherein determining the availability state is based on at least one of timing, forecasting, inference, and direct monitoring.